**Instructions
for
Setting up CADD Software
to Function Within UDOT's Environment**

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Introduction

The Utah Department of Transportation (UDOT) has taken steps to customize its CADD software, namely MicroStation, InterPlot (iPlot) and civil design software, all from Bentley Systems, Inc., to function in an environment suitable for the primary goal of developing transportation projects.

This customization has been accomplished mainly by making adjustments in various files that control how the software functions in certain aspects. The software is designed to accept such modifications.

The purpose of this document is to define how UDOT's CADD software environment is structured, and exactly what steps have been taken to adapt the CADD software to that environment. Following are two major sections. The first section describes, in very brief terms, how UDOT's CADD software environment is implemented. The second section describes how to launch the *MicroStation* and *iPlot Organizer* applications to take advantage of the UDOT environment.

It is not the purpose of this document to dictate how a consulting engineering firm should set up its CADD software environment, but rather to describe how UDOT's CADD software environment is currently structured and used to produce the desired effect as it relates to transportation project development.

It is important to understand that, under contracts relating to UDOT project development activities provided by consulting engineering firms, strict guidelines are set forth governing the nature of deliverables such as complete project folders, including necessary files for assuring that the project will flow smoothly into UDOT's Internet-based electronic plan room system.

This information packet has been provided primarily for the purposes of controlling plotting from the iPlot software, but it can also serve as a definition of the MicroStation environment set-up.

Specifics:

Note that some files described here will require editing to fit local situations, and these files are text files and can be edited with *Notepad*.

The **mslocal.cfg configuration file** resides in the folder C:\Program Files\Bentley\Program\MicroStation\config and is modified to re-direct *MicroStation* to find its "workspace" on the user's network drive. It should look like this:

```
MSDIR=C:/Program Files/Bentley/Program/Microstation/
#USERNAME=bgardine
USERROOT=N:/Iss/$(USERNAME)
_USTN_WORKSPACEROOT:$(USERROOT)/Bentley_udot/Workspace/
%include $(MSDIR)/CONFIG/msconfig.cfg
```

… or something similar. Note that the "username" variable is "commented-out" (the pound-sign), since, in most cases, this is supplied by the operating system equivalent to the current user's logon-id. But this can be overridden as needed to fit your situation. The key here is that we're instructing MicroStation and iPlot to look for the workspace somewhere else as opposed to within its own folder. This file will require editing to fit real situation.

The **dfltuser.cfg configuration file** resides in the folder C:\Program Files\Bentley\Home\prefs and is modified to instruct *MicroStation* as to the current username. It should look like this:

```
%level 0

_USTN_USERNAME = $(USERNAME)
```

Note that the "USERNAME" is a variable and, in most cases, is supplied by the operating system or the mslocal.cfg file shown above. But this value can be overridden in this file as needed to fit your situation by replacing the "$(USERNAME)" with an actual username. This file may require editing to fit real situation.

The **user configuration file** resides in the user's workspace folder, N:\Iss\Bgardine\Bentley_Udot\Workspace\users for example, and is named ***username*.ucf** where *username* is the user's logon-id, and must be the same as in the mslocal.cfg and dfltuser.cfg files above. This file will require editing to fit real situation.

The **project configuration** file resides in the user's workspace folder, N:\Iss\Bgardine\Bentley_Udot\Workspace\projects\Udot for example, and is named ***nnnnn_yy*.pcf** where *nnnnn_yy* is the project name as defined for CADD purposes. This file will require editing to fit real situation.

The **MicroStation linestyle and font files** reside in the project folder, N:\Projects\nnnnn_yy\Resources\Styles for example, and are named **uline_MmmYy.rsc** and **Udotfont.rsc** respectively. Note that the naming convention for UDOT's linestyle file is date-specific, where "Mmm" is the 3-letter month abbreviation and Yy is the year. This is due to the fact that this file is updated occasionally, and it is imperative to have the correct version for each particular project. For example, a typical file name would be "uline_Feb04.rsc". These files are binary and cannot be edited directly.

The **iPlot pen table** resides in the project folder, N:\Projects\nnnnn_yy\Resources\iparm for example, and is named **Udot.pen**.

The **iPlot settings file** resides in the project folder, N:\Projects\nnnnn_yy\Resources\iparm for example, and is named **iPlot.set**.

The **iPlot registration entries file** resides in the project folder, N:\Projects\nnnnn_yy\Resources\iparm for example, and is named **iplotorg.reg**. Note that this file is called from within the iPlot batch file. This file will require editing to fit real situation. The best way to edit this file is by right-clicking the file within Windows Explorer and selecting the "Edit" option.

The **iPlot batch file** resides in the project folder, N:\Projects\nnnnn_yy\Resources\iparm for example, and is named ***nnnnn_yy*_Iplot.bat** where *nnnnn_yy* is the project name as defined for CADD purposes. This file will require editing to fit real situation.

The **iPlot batch file shortcut** resides on the user's workstation's Start Menu folder, `C:\Documents and Settings\All Users\Start Menu\CADD Projects\nnnnn_yy` for example, where *nnnnn_yy* is the project name as defined for CADD purposes. Note that the name of this file is "**iplot**" but has a hidden extension of ".**url**". This file will require editing to fit real situation. Note that this is a so-called "Internet shortcut" and can be edited by right-clicking and choosing "Properties".

Usage:

After the files have been correctly placed and/or edited, *MicroStation* and *iPlot Organizer* can be executed thusly:

MicroStation:

MicroStation is started directly from its shortcut icon in the Start Menu, `Start Menu\Programs\MicroStation` area or from a Desktop icon. From within the *MicroStation Manager* dialog, the user can select which project to deal with, then pick a file to open. The project selected dictates to *MicroStation* which PCF file to process, thus setting the UDOT-specific environment variables, which control how *MicroStation* functions to achieve UDOT's standards.

IPlot:

The *iPlot Organizer* is a stand-alone program that is started from its shortcut icon in the Start Menu, `Start Menu\CADD Projects\nnnnn_yy` area. The shortcut is named **iplot** as described above. This, in turn, executes the actual batch file residing in the project folder as described above. That batch file initializes the UDOT-specific environment variables, which control how *iPlot Organizer* functions to achieve UDOT's standards